

Chisolm (Jul. J.)

OPHTHALMIC

AND

AURAL SURGERY REPORTS.

BY JULIAN J. CHISOLM, M. D.,

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SITY OF MARYLAND; AND SURGEON IN CHARGE OF
THE INSTITUTE.



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Reports of Cases of Special Interest which have Presented Themselves for Treatment at the Baltimore Eye and Ear Institute, under the Care of Julian J. Chisolm, M. D., Clinical Professor of Eye and Ear Surgery in the University of Maryland, and Surgeon in Charge of the Institute.

Among the 2,004 eye and ear patients (out and in door) who applied for treatment at the Baltimore Eye and Ear Institute during the past year, a few of them offer sufficient items of special interest to be worthy of record. Some of them show rare pathological conditions, whilst others exhibit the advantages to be derived from novel methods of treatment.

Of 334 patients suffering from affections of the conjunctiva, only three cases offered peculiar symptoms.

Cancer Involving the Corneal Conjunctiva.—Mrs. B., of Virginia, a lady in good health, aged forty-nine, presented herself for surgical treatment, with three small growths of a dark color, resembling beads, located upon the temporal side of the corneal border. One of these, the central and largest one, was the size of a millet seed, those on either side being a little smaller. They seemed to have involved the conjunctiva and subconjunctival tissues, encroaching very slightly upon the corneal parenchyma. They were first observed fifteen months since, and their slow growth had kept the eye painfully injected, but had not affected vision. Twelve months since these

growths had been removed and the surface freely cauterized. In the course of time they reappeared, and a second operation was submitted to. Nine months from the first operation she came under my treatment. I carefully dissected away the growths, leaving the surface apparently perfectly clean. Although the diagnosis of malignancy was made, this palliative course was pursued to prepare patient for the removal of an eye which in every respect both as to clearness of cornea and sharpness of sight seemed perfect. She was informed that should the growths persist in their reëpearance, she must make up her mind to sacrifice the eye, as its removal offered her the only means of safety. In three months she again returned to me with the three dark brown bead-like growths as large as on a former occasion, with, as she now reports, a perceptible increase in size from week to week. The eye was extirpated. A microscopic examination of the conjunctival growth sustained the diagnosis of melanotic cancer.

Hypertrophy and Fatty Degeneration of Corneal Epithelium.
J. D. B., of Maryland, aged sixteen, has had bad eyes for six years. The trouble commenced with the appearance of white spots at the edge of the cornea, which have exhibited a steadily progressive tendency to extend over the corneal surface and affect vision. Treatment to the present time from his family physician has effected nothing. Pain in the eyes has been recently added to the defective sight. When he came under my observation I found the following condition: Each cornea, especially the left one, presented thick, yellowish opacities, evidently surface growths, apparently heaps of epithelial cells which had undergone fatty degeneration. The cornea was not vascular. The left cornea was two-thirds covered by these opacities, leaving a clear portion in the upper and lower segments. In the right eye the deposits had encroached from the inner and outer borders of the cornea, but had not coalesced in the centre, so that good vision still remained to this eye. The edges of these deposits in the direction of growth were imperceptibly lost in the healthy cornea, whilst the parts for some time invaded pos-

sessed considerable thickness and were of a decidedly yellow tint. The ocular conjunctiva was healthy. Under cod-liver oil and the syrup of the iodide of iron there was evident improvement in the transparency of the cornea, and when the patient returned to his country home, there had already been a clearing away of some of the thickened deposits.

Turpentine Treatment of Pannus or Fleshy Cornea.—J. P., from the District of Columbia, aged thirty, came under treatment for a fleshy vascular cornea (pannus crassus), affecting the right eye only, which had proved very rebellious under treatment. After exhausting the routine of remedies with no apparent good results, an attempt was made to cut off the excessive vascular supply by dissecting away a broad zone of the ocular conjunctiva completely surrounding the cornea; an operation known to ophthalmic surgery as *peritomy*. This operation did not in any way diminish the vascularity of the thick, fleshy cornea. Having been completely foiled in obtaining results from the varied treatment from time to time instituted, the following course was adopted: *R*—*Olei terebinthinæ*, *℥i.*; *olei olivæ*, *℥i.*; a drop in the eye once a day.

The stimulation of the turpentine seemed to be just what the fleshy cornea required, for improvement commenced *pari passu* with the instillation. Day by day the pallor of the cornea increased, and a thinning process was successfully established, so that in a few weeks the color of the iris could be detected. When the outline of the pupil could be defined the patient returned home, with instructions to continue the treatment. After a few months the patient returned to exhibit himself, with an eye so completely restored that it was impossible to determine which eye had been the affected one, every trace of the thick fleshy covering of the right cornea having been effaced.

Establishing a Corneal Fistula to Give Sight in an Opaque Cornea.—G. B., of Virginia, aged fifty-one, after a severe attack of inflammation of the eyes, was left with uniformly

opaque cornea, without any tendency to staphyloma. He could distinguish light from darkness only. In this condition he applied to me for professional aid, his blindness having been pronounced irremediable by some of the leading men in the Profession, which opinion I endorsed. However, I suggested to him the possibility of making a peep-hole through the centre of the opaque cornea similar to a pin hole through a card—viz., the establishing of a permanent central corneal fistula, to be kept open by the constant escape of aqueous fluid. Through this orifice a ray of light might enter the vitreous chamber, and impinging upon the retina, give some useful vision. With this object in view, I punctured the cornea with a sharp-pointed knife, and succeeded in cutting out a small piece of corneal tissue and in opening the aqueous chamber. To this opening I freely applied a sharpened point of nitrate of silver. As the fruit of this course of procedure, I had the gratification of exciting limited ulceration in the corneal tissue, which thinned somewhat the cornea, whilst it kept open the perforation. This permitted a continuous escape of aqueous fluid to the decided improvement of the vision. I saw the patient six months afterwards, and found the fistulous passage still open.

Cancer of the Cornea.—Mrs. D., of Florida, aged fifty-five, has had a defective right eye for one year, out of which she cannot now detect light. For six months she has suffered pain in the eye, which has steadily increased in severity until the present, when it is agonizing. It is to try to escape the terrible suffering that she has put herself under my care. In examining the eye, I found the upper three-fourths of the cornea opaque, with the external surface of the cornea of normal shape, smooth and polished, in proof that the trouble which had disturbed its transparency had come from within. Vessels could be seen entering the depth of the clouded tissue. When a strong light was thrown through the clear segment of the cornea, the upper half of the anterior chamber was seen filled by a whitish growth or mass which, continuous with the opaque corneal tissue, seemed also continuous with the iris. There

was no increase in the size of the eye-ball. The diagnosis made was tumor of the iris involving the cornea, possibly malignant from the intense suffering of the patient. Extirpation of the eye gave immediate and permanent relief. When the specimen was examined by opening the eye, the growth was found to be strictly corneal, only touching but not adherent to the iris. The microscopic investigation revealed a number of large cells typical of cancer.

A Wound of the Cornea Causing Double Vision in the Injured Eye.—J. F., of Maryland, aged twenty-eight, a mechanic, received a blow in the right eye from a sharp fragment of steel. After a few days, when the pain and irritation subsided so that he could use the eye, he found all objects looked at doubled. Upon further experimenting, he found them still doubled when the good eye was closed. For several weeks he suffered with the inconvenience, expecting its daily disappearance, but finding that the annoyance persisted, he sought professional advice. Upon a careful examination of the injured eye, I found a cicatricial line extending obliquely across the centre of the pupil, dividing the space equally into two clear segments. The blow of the sharp piece of iron, after cutting through the cornea, had depressed one of the lips of the incision, which had healed in this change of place. The altered surface refracted differently the light passing through these two portions of the pupillary space, making two cones of light to be concentrated by the lens upon two distinct portions of the retina. By impressing two sets of rods and cones, two distinct images are formed in the same eye. A cylindrical lens corrected the traumatic astigmatism and made the vision single.

A Singular Error of Refraction following upon a Section of the Cornea, in Iridectomy.—Miss M., of Virginia, aged forty, suffering from frequent attacks of ciliary neuralgia in eyes and temple, was found on ophthalmic examination to be the subject of glaucoma. To relieve her suffering and prevent impending blindness, the operation of iridectomy was performed on each eye. The intense suffering accompanying the glaucomatous

disease was immediately relieved by the operation, and she was soon enabled to enjoy open air exercise. When the eyes became strong enough to bear exposure to strong light, she was surprised to find that all bright objects were both magnified and multiplied, assuming at the same time a crescentic form. For instance, a view of the moon gave thirty brilliant crescents arranged in three rows of ten each, each eye giving the same number of thirty crescents. The multiplying and magnifying of the stars made a brilliant overhead. Even the glimpses of light through the foliage was always in crescent forms. This condition did not affect accuracy of vision for small objects, as in reading. After a few months of perfect comfort, over application brought back the ocular and circum-orbital pains in paroxysms of such severity as to necessitate, at her distant home, the frequent application of cups. The treatment only gave her a few days of comfort. On one occasion, when a larger quantity of blood than usual was extracted, the crescents disappeared with the pain, and gave her perfectly natural vision. This condition only lasted, however, one day, for, after a night's rest, the crescents were as numerous and as well defined as ever. After exhausting the routine of treatment for the permanent relief of these constantly returning attacks of pains, a second iridectomy was performed on each eye section upwards, as before. By the two operations fully one-fourth of the iris had been removed. The recovery from this second operation was speedy. Prompt relief was obtained, as in the first instance, and by it the magnifying and multiplying of bright objects were to a certain extent corrected. Now she sees with the right eye six visions, and with the left eight, and with two eyes eight also. The condition was one of irregular refraction or traumatic astigmatism from changes in the corneal surface, induced through the cicatrization of the corneal wound. Cylindrical concave glasses removed the whole annoyance, and reestablished single and natural vision.

Complete Traumatic Irideremia.—J. M., of Maryland, aged thirty-seven, had his right eye injured in a fight three years

since. He was gouged in the eye by his antagonist, and the cornea cut through by the finger-nail. The point of the nail, after entering the anterior chamber, must have caught the pupillary border of the iris, and drawing it forwards and through the corneal wound, had separated the entire ciliary border from its ligamentous connections, leaving the iritic mass hanging out of corneal wound. The injury to the eye gave so little annoyance that he neither sought professional advice nor did he lose an hour's work. He noticed at the time a white stringy mass hanging from what he thought was a scratch on the cornea. This was detached in two or three days, leaving the eye free. The left eye becoming affected, after three years he sought relief for it; when making an ophthalmic examination of the left eye, a peculiar appearance of the right eye was observed. The entire corneal region looked black, as if all pupil, and when the ophthalmoscopic light was thrown upon it, the entire surface reddened with the choroid reflection, exhibiting no remnant of iritic tissue. The scar in the cornea extended from the centre downwards to the corneal border. It was triangular in shape, with its base running into the scleral edge of the cornea. The lens was without blemish, and the details of the retina could be easily made out. The patient could read fine print with this eye, in proof that this very curious accident had neither injured the lens, nor had it in any way interfered with the accommodative powers of the eye. Vision in the left eye had become impaired through inflammatory complications. So that the eye, minus iris, was his only useful organ for vision.

Iridectomy to Relieve the Suffering of Acute Iritis.—Mrs. H., of Mississippi, aged fifty-six, had lost all sight of the right eye from glaucoma. The left lens had been extracted for cataract, and the operation had been followed by closure, the result of iritis. When she came under my observation she was blind in each eye, and was suffering intense pain in the right one, which was undergoing acute inflammatory changes. Iritis had supervened upon the amaurotic state and in connection with a pupil full of recently deposited lymph. Neoplastic formations of consid-

erable size had formed upon the surface of the iris, accompanied by much ocular congestion. The usual remedies having been tried in vain to relieve the intense agony which seemed nearly to deprive the patient of reason, the operation of taking out a portion of the iris was put into practice as a *dernier resort*. Much to my satisfaction, the relief following the operation was prompt and permanent. The inflammatory attack subsided immediately, and the patient was convalescent from the moment of operation.

Ciliary Tumor.—Mrs. E. B. J., of Pennsylvania, aged twenty-eight, presented herself for examination under the following circumstances: Three years since she noticed that the sight of the left eye was failing, and for the last fifteen months had not been able to distinguish letters with it. At present, when she looks directly forwards, the eye seems absolutely blind, but when looking very obliquely downwards and inwards, she can note the contrast between her white handkerchief when laid upon her black dress. She suffered much recently from headache, the eyes at such times feeling like bursting. The right eye has given pain also, with misty vision now and then. Rainbow visions are frequently present in this right eye, with vision still perfect and with the full range of accommodation. Upon simple inspection of the eye no difference can be detected. The patient is a dark brunette, with brilliant black eyes. The pupils are of a clear black color, and of lively vision under the influence of light. The ophthalmoscopic mirror, however, reveals a most curious condition. When the pupil of the lost eye is illuminated, its nasal border is indented by a dark brown evenly rounded mass, which makes a sharply defined outline against the clear red reflex of the choroid. When the pupil was well dilated with atropia, nearly the entire outline of a pea-shaped and pea-size tumor could be seen lying between the clear lens and the posterior face of the iris, with base of the tumor lost in the ciliary region. The optic disc of normal size and color as compared with the sound eye, could be readily examined, yet there was no vision in this eye. Extirpation of

the lost eye was advised, but the patient had only come to Baltimore for an examination, and had made no provision for a long stay. She promised to return after some weeks to undergo the operation.

Ciliary Hemorrhage (Traumatic).—W. J. R., of Maryland, aged fourteen, was struck over the inner angle of the left eye, four weeks since. Swelling of the lids immediately followed, and the eye was shut in from observation for one week. When the reduction of the swelling permitted a separation of the lids, it was found that all sight had disappeared from the eye, and it still remains totally blind. At present the eye looks normal, with no external trace of the former accident. When the pupil was dilated with atropia, the retina could not be defined by ophthalmoscopic examination, the choroidal reflex being of a muddy, brown color. The lens remained transparent. When the mirror light was directed very obliquely through the pupil, a whitish deposit was seen occupying the ciliary region, and filling up the interspace between the edge of the lens and the posterior surface of the iris, covering the ciliary processes. This deposit was most conspicuous at the nasal and temporal portions of the ciliary regions. In the most dependent portion of this posterior chamber, a blood clot occupied the space between the two white lateral deposits. As the case was examined from day to day, the white clouds which were restricted at first to the ciliary processes, gradually pervaded the vitreous cavity from this as a centre, and in time gave a whitish reflex to the entire fundus upon ophthalmic examination. The blood which had been first observed slowly disappeared by absorption.

Of the seventy-nine cases of cataract which came under observation during the year, only three are deemed worthy of notice.

Traumatic Cataract Caused by the Explosion of a Fire-Cracker.—Master F., of Maryland, aged eight years, whilst playing with fire-crackers, had one thrown at him which exploded as it struck his left eye. Severe pain was immediately

produced, and some redness of the eye followed. In a few days all appearances of injection had passed away, but a complaint was made of a growing dimness in vision in the injured eye. I was requested to examine the eye a week after the accident, when I found the lens quite milky. The most careful inspection elicited no trace of corneal or sclerotic injury. The lens capsule over the pupillary area seemed intact. Either the capsule must have been injured toward the edges of the lens, or the nutrition of the lens must have been interfered with by the concussion to explain the rapid clouding of this clear transparent substance.

Clouding up of a Cataract in Twelve Hours.—Mrs. R., of Maryland, aged sixty-five, had been under observation for several months for defective vision. An ophthalmoscopic examination of the eyes, with pupils dilated with atropia, showed striæ in each lens; incipient cataract. During sixteen months that she was under observation, from time to time, clouding of the lens appeared to make no progress. After this long interval, she could read the same size of text types as at the first examination, and the striæ in the lenses, which were peripheral, seemed to encroach no further toward the centre. Her eye troubles being ever present to the mind, she was continually testing them to determine what changes were taking place. Before going to bed, on one occasion, she tested them as usual, and found them retaining all the sight of months back, when directed upon the test objects against the opposite wall. When she awoke on the following morning, she at once detected a change in vision, and upon testing the eyes, she found that during the night one of the lenses had clouded up to such an extent that she could only detect light with it. A glance at the eye, now, exhibited a whitish pupil, which, up to the previous evening, had been black. The lens was extracted, and in the course of time such perfect sight was restored that she could read the smallest type.

Traumatic Mania after Cataract Extraction.—Mr. W. R., of Maryland, aged eighty-two, in good health, weighing about one

hundred and eighty pounds, presented himself for treatment, both eyes being cataractous. Without giving chloroform I extracted one of the opaque lenses. The case progressed very favorably, and promised excellent results until the fifth day, when the patient became delirious, and was, with great difficulty, controlled. This extremely restless condition continued for forty-eight hours, and caused the most serious apprehensions. Under large doses of bromide of potassium and morphia, the distressing mental condition passed off, leaving him sound in mind and with useful vision.

The Advantage of the New Method of Removing an Eye-Ball.—The method of extirpating an eye-ball, as laid down in modern works on surgery, is to use the knife freely and ream out the orbit, eye, muscles, etc. This procedure is a serious one, necessitating a painful and tedious convalescence, leaving a deep socket from which a purulent discharge often continues for months. When the patient is deemed cured, a drooping lid usually excludes the possibility of wearing an artificial eye, and fixes upon the patient a permanent deformity. The following case illustrates the very great advantage of the new method: Mr. M., aged forty-five, came to the Baltimore Eye and Ear Institute from Wyoming Territory to have a cataract operated upon. I found his condition as follows: Eleven years since he was struck in the eye by the horn of an ox. The front coats of the eye were lacerated by the blow, and sight was lost. Violent inflammation ensued, and six months elapsed before the pain and discomfort disappeared from the lost eye. For the last year he has noticed a growing cloudiness of vision in the good eye, which has deepened to such an extent as to affect very decidedly the usefulness of vision. The ophthalmoscopic examination revealed a lens well striated with opacity, but otherwise healthy. The usual linear extraction operation was performed for the removal of the cataract, and in the course of two weeks he had the gratification of making out ordinary print, a privilege which he had not enjoyed for many months. As he had regained sight and had but one eye, he could not ven-

ture to expose it to the dangers of sympathetic troubles from an inflammation which might at any time show itself in the injured eye ; for we may safely lay down the rule, that an eye lost from injury is always a source of danger, and when least expected, may threaten the sound eye through sympathetic irritation. In support of this ophthalmic truism, I have now under care a gentleman from Virginia whose eye was injured by a scissors' puncture when he was five years old. The eye was soon lost, and remained a yellow ball. Within the last few weeks, after a period of quite thirty years, the lost eye has commenced to be painful, and the good eye is now, for the first time, indicating such sympathetic irritation as to call for the removal of the lost one. As soon as the lost eye-ball is removed the pain will disappear from the remaining eye, which will regain its normal strength. As in the distant West, an experienced surgeon could not be had in the emergency, I advised my patient to have the lost eye removed, as a prophylactic remedy. He at once consented. The plan of operation was the method of enucleation in use by ophthalmic surgeons, by using a sharp pointed scissors. The conjunctiva was separated from the eye-ball around the outer corneal circumference, and through this circular wound each tendon of the recti muscles was hooked up and divided, as in the operation for strabismus. A heavy curved, blunt-pointed scissors was then thrust through the nasal portion of the conjunctival wound toward the back of the orbit, when, by opening its blades, the optic nerve was seized and severed at the point of entrance into the eye. The scissors being now used as a lever, the eye-ball was lifted out, and escaped through the opening in the conjunctiva, when any muscular fibres still holding it to the socket were divided. As the whole conjunctival tissue was left, it formed a covering for the cavity from which the eye was turned out, and adhered to its walls by quick union. In the case in question, the eye-ball was removed under chloroform. In the first twenty-four hours the patient was annoyed by nausea, a common sequel of chloroform inhalation. During the second day he felt well enough

to take exercise out of doors. After the third day he started on his long railroad journey of 2,500 miles, and reached home in safety, the recent operation upon him having caused no annoyance whatever.

Chromotopsia with Hyperæsthesia of the Retina.—W. F. D., of Virginia, aged thirty, has for four years suffered with increasing irritability of the retina, which has now attained such an extreme degree of hyperæsthesia that he remains blindfolded with a black silk cravat, many times folded, and in a very dark room, from which all light is excluded, yet still complains of light. He has been under observation for three years, during which time the most varied treatment has been instituted, but without any effect in stopping the constantly progressing irritability. Both eyes have been iridectomized as a dernier resort, but with no better success than followed the previous application of remedies. When he first came under treatment, at a time when he could bear exposure to light, and could read the finest print, every object looked at seemed to be surrounded by a blue mist. This blue mist has gradually deepened, and is always present. Now, even when he seems to be in utter darkness, the thick blue mist is visible. At times it changes to green, but blue is the predominant color. He can still discern small objects, showing an acuteness of perception. Any exposure to light, however feeble, causes a severe pain in the eyes and temples, which lasts long after the light is shut out. The hyperæsthesia and chromotopsia still defy treatment, the last remedies used being cod-liver oil and phosphorus.

Apparent Cure of Well-Marked Bright's Disease of the Kidneys.—Mrs. N., aged twenty-seven, Indian Territory, desired treatment from me for nerve blindness. Two years and a half since, while under treatment for Bright's disease, with the usual characteristic symptoms, swellings, etc., she found after one day's excessive use of her eyes in sewing, that the atmosphere to her had become hazy. This dimness continued afterwards as a permanent state. One year later, when giving birth to her last child, sight became much more dimmed, and

in a few days left her altogether. From that time to the present she has only had the merest glimpse of light at times, and that under unusually good circumstances. Most frequently she is totally devoid of even this comfort, and has no perception of light. An ophthalmoscopic examination gives a retina and white optic disc, typical of the sequelæ of Bright's disease, substantially in every particular the diagnosis as made by the family physician. He had often examined the urine, finding albumen and tube casts. For the past six months her health has been good, excepting severe headache. Now she has no trace of swelling, looks the picture of health, and is capable of undergoing much fatigue. Her appetite is good, and were it not for the indelible traces of the former retinitis albuminurica the previous diagnosis might be questioned. The urine is now free from albumen, and it is doubtful whether a granular mass now and then met with in the field of the microscope could be considered a fragment of the tube cast.

Bright's Disease of the Kidney Diagnosed through the Eye.—Mrs. F., of Maryland, aged twenty-eight, has complained of defective vision for about two weeks. Her health has been feeble for a long time, with much emaciation and with poor appetite. For many months she has been under professional care for what was called by her attending physician dyspepsia. When the defective vision was superadded to her many other troubles she was sent to me for advice. An ophthalmoscopic examination, in the absence of all external causes explanatory of dimness of vision, revealed the typical appearances of retinitis albuminurica. Each eye gave the characteristic symptoms. When questioned she denied ever having had kidney troubles of any kind, and stated that her family physician had never suspected trouble from that quarter. There were no other symptoms of Bright's disease manifest, and I was therefore not surprised that the cause of her ill health should have escaped the attention of her physician. At my suggestion he, for the first time, examined her urine, and to his surprise found it

loaded with albumen, and with the microscope found abundant evidences of the tube casts.

A Nice Diagnosis of Tobacco Amaurosis.—Margaret E., aged forty-three, a Scotch woman, for the past year has been losing sight, and can now only make out very large print (letters half an inch in size) at the distance of one foot. The ophthalmoscope revealed pale discs with small arteries and full veins. By exclusion, the diagnosis was fixed as amaurosis from tobacco, although no questions had been asked, and Scotch women very seldom use the weed. After telling her my impressions as to the cause of her dimmed vision, she confessed to the using of tobacco, which she had been advised to smoke whilst employed as a nurse in the fever wards of the Edinburgh Infirmary, and which habit she has since continued to indulge in.

Use of Strychnia in Functional Derangements of the Retina. In Night Blindness.—C. S., engaged as sail maker of a ship in the China trade, had his eyes so affected by his daily occupation, sewing upon white cotton duck, spread out upon the deck of the ship under a tropical sun, that the retina lost power, and he could only perceive objects when stimulated by strong light. When the sun went down, the daylight after sunset was not sufficiently exciting to his retina, and the result was absolute blindness, until sunrise the next day. Having been seriously annoyed by this night blindness for several months, he sought relief in hospital on the Pacific coast. Finding no benefit from six weeks' treatment, he sailed for the United States, and arrived in Baltimore. At this time he came under my treatment. During the day he appeared to have perfect vision, reading readily fine print. With the setting sun a deep fog commenced to envelop objects, and with the deepening twilight completely shut out all vision, so that he could not see the gas when lighted. A solution of the sulphate of strychnia was injected hypodermically each day under the skin of the arm. Improvement showed itself after the first day's use of the remedy, and increased so rapidly that in ten days he could read fine print by

the same light he could not see when the treatment was commenced.

Efficacy of Large Doses of Strychnia in Curing Amaurosis.—Mrs. N., aged forty-nine, of Maryland, has had defective vision for one year. She had been using 20-inch convex glasses, but these at last, as well as stronger glasses, failed in aiding her vision, and she had to give up reading, even the largest type. Her general health was good. An ophthalmoscopic examination gave pale optic discs, progressive optic atrophy. The sulphate of strychnia was prescribed in the usual doses of 1-48th to 1-30th of a grain, and continued daily for six months without benefit. On the contrary, she thought that she had lost ground and had dimmer vision. The dose of strychnia was now rapidly increased until the 1-10th of a grain was taken three times a day. Marked improvent soon showed itself from these larger doses, and in three months she could read readily minion type, which restored to her the full use of her eyes.

Strychnia in Tobacco Amaurosis.—Mr. W. W., of Virginia, aged fifty-seven, has, for the past six months, found his sight becoming rapidly clouded. He has increased the strength of his spectacles until with No. 10-inch convex he still finds himself unable to read or attend to business matters. He has never had pain in the eyes at any time. For many years he has used immoderately both tobacco and whiskey. Upon testing his vision with Jæger's test types, he can only make out No. 18 at one foot; these are letters one quarter of an inch long. With the ophthalmoscope the optic disc in each eye was whitish. The course of treatment prescribed was: 1st. The absolute prohibition of both tobacco and whiskey; and 2d. The internal use of sulphate of strychnia in doses of 1-30th of a grain, gradually increasing to the 1-10th of a grain three times a day. Under this course an improvement soon showed itself, and has steadily progressed until now. After four months his vision has been perfectly restored. The strychnia treatment having been steadily persevered in, also the abstaining from to-

bacco. The instructions as regards the whiskey, I found had not been so rigidly carried out. Now, with a 10-inch convex, he reads readily "The Brilliant" of Jæger's test types, which is the finest of print.

The Advantages of Strychnia in White Atrophy.—Mrs. G., of Maryland, aged thirty-one, eighteen months since lost sight in the right eye, out of which she now has no vision, not even perception of light. Eight months since, about the period of parturition, she suddenly lost, in a similar way, the sight in the left eye. When brought under my care, six weeks afterwards, I found her absolutely blind, with no perception of light in either eye. She had the characteristic stare of an amaurotic, with dilated pupils. Upon ophthalmoscopic examination, the optic nerve discs were white, with pigmentary borders. The strychnia treatment was at once introduced, combining the hypodermic with the internal administration of 1-30th of a grain each dose. In four days she could readily distinguish the lighting and extinguishing of the gas light. With this encouragement, the strychnia remedy was continued in increasing doses. At the end of two months so much vision had been regained that she could attend to many household duties. She at this time discontinued the remedy, and the eyes stopped improving, or changed so slowly that she could detect no difference in her vision from week to week. She now came under my examination again, and I found that her best vision was No. 18 of Jæger's test types. Upon trial she could make out no word in No. 16 of the test types. I resumed the hypodermic use of the strychnia, injecting it twice a day for the three days that she remained in the city. During the first day I injected 1-30th and 1-24th grain; during the second, 1-29th and 1-17th grain; during the third, 1-15th of a grain. Each of these doses produced the physiological effects upon the back and limbs, but not to a disagreeable extent. The effect upon her vision was at once evident. On the second day she could read No. 16, and on the third day No. 14 of the test types. I regretted much not being able to retain her longer in the city,

as I believe that in a few week's use of the strychnia, increasing the dose daily until 1-5th of a grain could be taken at a dose, she would have been able to see fine print. A point of very great interest is, that although from absolutely no sight, her vision had been restored to such an extent that she could make out coarse print, with useful vision for all household work, the discs had undergone no change whatever, under ophthalmoscopic examination. They looked just alike in both eyes. As white and as unpromising in the eye in which she could see very well, as in the other eye in which she could not distinguish between darkness and the concentrated light from the ophthalmoscopic mirror. The case showed conclusively that, with restoration of sight, there was not necessarily restoration of the physical appearances of the optic nerve disc. My more recent experience in the use of strychnia in optic nerve atrophy having proved to me that there was no special advantage in the hypodermic application over the mouth, but that the benefit was derived from the much larger doses given, three to six times the dose ordinarily prescribed. She was ordered to continue the large doses at home, so as to reap the full benefit from the remedy.

Of the 304 cases of ear diseases which applied for treatment at the Baltimore Eye and Ear Institute, the following are of interest:

A New Method of Injecting Medicated Fluids into the Drum Cavity for the Relief of Deafness.—Mr. S. R. F., aged twenty-three, from Texas, has been so deaf in the left ear for the past three years that he can hear absolutely nothing with it. Knowing himself to be completely deaf in this ear, and believing his case incurable, he came to Baltimore for treatment solely to gratify his friends at their earnest solicitation. Upon examining the right ear I found it perfect. In the left ear I found the drum cavity nearly effaced, with the drum membrane firmly adherent to the inner osseous wall or promontory of the cochlea. The Eustachian tube admitted air into this nearly effaced

tympenic cavity, as perceived through the otoscope, yet the ticking of a watch could not be heard when pressed against the ear. The object to be attained in this case was to liberate the drum membrane and restore the drum cavity. This was in a measure effected by the following novel treatment: Having secured the Eustachian catheter in the pharyngeal orifice of the Eustachian tube, a small rubber tympanic catheter (Ueber's) was introduced through the silver Eustachian tube until its free end entered the drum cavity itself. Through this channel, the drum cavity was filled with a solution of sulphate of copper of the strength of four grains to one drachm. This was injected for the purpose of exciting inflammatory action, its effect causing the old bonds of adhesion to soften. The injection was repeated each day. After a few days air was driven with sufficient force through the tympanic catheter to stretch the adhesive bands and allow the depressed membrane to resume somewhat its normal position. The result was an immediate improvement in the hearing. From absolute deafness, in the short space of a week, the patient could hear the watch at six inches from the ear, and could understand conversations as well with this formerly deaf ear, as he could with the perfect one. This result was unusually good.

Advantages of Puncturing the Drum Membrane in Acute Aural Catarrh.—Mr. J. L. P., of Maryland, aged fifty-five has been deaf for a week in the left ear. He also complains of a sense of fullness and great discomfort on that side of the head. His family physician had carried him through the usual process of blistering, syringing, etc., without any relief. When he applied to me for treatment, I found upon inspection that the drum membrane seemed prominently pushed outwards by an accumulation of fluid in the drum cavity. The membrane had so retained its transparency that when air was admitted through the Eustachian tube during self-inflation, I was much surprised to be able to distinguish the air bubbles bursting through the fluid in the drum cavity. To give the patient relief, I performed the following operation: The drum membrane

was punctured by an eye-needle, and the entire fluid contents of the cavity were evacuated by blowing through the Eustachian tube. Good hearing was immediately restored, and continued good without further treatment.

The Destruction of the Drum Membrane does not Necessarily Destroy Hearing.—Miss G., from Georgia, aged seventeen, has had for many years a discharge from the left ear, a sequel of an eruptive disease. The purulent discharge disappears from time to time to reappear on the slightest exposure. When she came under my professional care I found a large opening in the drum membrane in the anterior segment. The posterior half of the membrane which remained intact was thick and vascular. Under treatment, the aural discharge ceased, the redness in the membrane disappearing. She can now hear the watch twenty inches from this ear with a largely perforated drum membrane, twenty-four inches being the full hearing distance of a perfectly normal ear. Usually in cases of perforation of the tympanic membrane, the hearing distance of the watch is from one to six inches.

Perforating Ulcers in Each Drum Membrane Unaccompanied by Aural Discharge.—Mrs. P., of Maryland, aged 32, is quite deaf. Her defect in hearing dates back two years, and has been gradually increasing until the present, when she cannot hear the watch pressing either ear. She has at no time observed a running from either ear, and complains of much tinnitus in the right ear alone. Upon examination, a large perforation was found in the posterior inferior quadrant of the drum membrane. The edges of the opening had become adherent to the inner wall of the drum cavity, except at the anterior border, where the separation permitted the edge of the orifice to cast a shadow upon the inner wall of the traumatic cavity. She could force air through the Eustachian tube, which would escape at the opening in the tympanic membrane. In the examination of the left ear a corresponding pit was found where a similar perforation had existed in the left drum membrane. This

opening had been completely closed by adhesion of the inner wall of the drum cavity. All traces of existing inflammation had disappeared from the left drum membrane. The right one was still thick and vascular. As the remaining three-fourths of the left drum membrane was markedly depressed, the absence of buzzing in this ear was a singular feature. As before stated, she had never had a discharge from either ear.

The Value of Artificial Tympana in Certain Cases of Deafness.—Mr. G. E. B., of the District of Columbia, aged twenty-two, when three years of age, suffered with measles, with its common sequelæ and discharges running from the ears, which has continued to the present time. His hearing had in early life become very defective. Having tried medical treatment at the hands of various physicians without benefit, he had become impressed with the uselessness of medication, and only came to Baltimore to consult a specialist because his friends had urged him to this course. In examining his ears I found both drum membranes completely destroyed. In either ear the tympanic opening of the Eustachian tube could be readily seen. There was no appearance of ossicles remaining. To such an extent was he deaf that he could not hear the watch when pressed upon either ear. As an experiment an artificial tympanic membrane (a rubber disc) was carefully applied in each year. At once he expressed his delight at hearing for the first time the sounds of passing vehicles. Upon testing now with the watch he could distinctly hear it tick at six inches from either ear. For the first time in his recollection he can now hear a conversation when spoken in an ordinary tone of voice. Deafness is resumed upon the removal of the small plates of thin rubber.

The Value of Rhinoscopy in Establishing the Cause of Deafness.—W. G., of Maryland, aged fifty-six, consulted me concerning his hearing. In his right ear he has normal hearing, but in the left he has been for many years so deaf that he can detect no sounds whatever when the right ear is closed. An examination of the left ear exposed a much depressed tympanic

membrane with drum cavity apparently entirely effaced. The processus gracilis of the malleus was very prominent, with the drum membrane tightly stretched over it. Closure of the Eustachian orifice in the throat was diagnosed, and an examination of the upper pharynx was made by means of the rhinoscopic mirror in verification. No Eustachian opening could be seen on the left side corresponding with the deaf ear, but where the depression for the trumpet opening should have been was found a smooth cicatricial surface, the former site of a syphilitic ulcer. This pathological condition assured me of the inutility of surgical treatment, and also explained in a most satisfactory way the inefficiency of all former medication.



